



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/828,327

04/21/2004

Jae-seong Shim

1293.1127C2

4238

49455

7590

04/07/2008

STEIN, MCEWEN & BUI, LLP  
1400 EYE STREET, NW  
SUITE 300  
WASHINGTON, DC 20005

EXAMINER

CERVETTI, DAVID GARCIA

ART UNIT

PAPER NUMBER

2136

MAIL DATE

DELIVERY MODE

04/07/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/828,327	<b>Applicant(s)</b> SHIM, JAE-SEONG	
	<b>Examiner</b> David Garcia Cervetti	<b>Art Unit</b> 2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/620,462.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Applicant's arguments filed January 22, 2008, have been fully considered but are not persuasive.
2. Claims 1-2 are pending and have been examined.

### ***Response to Amendment***

3. Regarding Applicant's argument that Ichikawa does not disclose the specific sizes, Examiner respectfully points to the newly cited portion (see rejection below) where Ichikawa teaches modifying the cycle sizes according to memory available.

### ***Claim Objections***

4. Claim 1 is objected to because of the following informalities: "ECC" must be spelled out. Appropriate correction is required.

### ***Double Patenting***

5. Claims 1-2 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 14-15 of Copending application 10/828,326. Although the conflicting claims are not identical, they are not patentably distinct from each other because

- "a data scrambler having a random data generator for generating random data in a cycle of 32 KB in order to scramble data having structure of 2 KB for a sector or a data frame and 64 KB for an ECC block" (**claim 1, instant application**) is analogous to
- "a data scrambling method comprising: scrambling data having a structure of 2 KB for a sector or a data frame and 64 KB for an error

correction code (ECC) block based on random data in a cycle of 32 KB”

**(claim 14, ‘326 application).**

Furthermore,

- “wherein the random data generator comprises: a 15-bit serial register  $r_0$  through  $r_{14}$  for generating the random data by shifting left synchronized with a clock input for scrambling; and an exclusive OR gate for outputting an exclusive OR value exclusive-ORing output from a higher-most register  $r_{14}$  and output from a lower register  $r_{10}$  to a lower-most register  $r_0$ , wherein the scrambler includes an exclusive OR logic circuit which supplies a result of exclusive-ORing 1-byte input data  $D_0$  through  $D_7$  and each of the 8 outputs of lower registers  $r_0$  through  $r_7$  after left-shifting the 15-bit register  $r_0$  through  $r_{14}$  8 time” **(claim 2, instant application)** is analogous to
- “wherein the scrambling comprises: shifting left a 15-bit serial register  $r_0$  through  $r_{14}$  for generating random data synchronously with a clock input for scrambling; outputting an exclusive OR value exclusive-ORing output from the higher-most register  $r_{14}$  and output from the lower register  $r_{10}$  to the lower-most register  $r_0$ , outputting the result of exclusive-ORing 1-byte input data  $D_0$  through  $D_7$  and each of the 8 outputs of the lower registers  $r_0$  through  $r_7$  after left-shifting the 15 bit register  $r_0$  through  $r_{14}$  8 times” **(claim 15, ‘326 application).**

6. This is a provisional obviousness-type double patenting rejection because the conflicting claims of the instant application have not in fact been patented.

7. Claims 14-15 of Copending application 10/828,326 contain every element of claims 1-2 of the instant application and thus anticipate the claims of the instant application. Claims 1-2 of the instant application therefore are not patentably distinct from the copending application claims and as such are unpatentable for obvious-type double patenting. A later patent/application claim is not patentably distinct from an earlier claim if the later claim is anticipated by the earlier claim.

8. “A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or anticipated by, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species with that genus). “ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

9. “Claim 12 and Claim 13 are generic to the species of invention covered by claim 3 of the patent. Thus, the generic invention is “anticipated” by the species of the patented invention. Cf., Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (holding that an earlier species disclosure in the prior art defeats any generic claim) 4. This court’s predecessor has held that, without a terminal disclaimer,

Art Unit: 2136

the species claims preclude issuance of the generic claim. In re Van Ornum, 686 F.2d 937, 944, 214 USPQ 761, 767 (CCPA 1982); Schneller, 397 F.2d at 354. Accordingly, absent a terminal disclaimer, claims 12 and 13 were properly rejected under the doctrine of obviousness-type double patenting.” (In re Goodman (CA FC) 29 USPQ2d 2010 (12/3/1993).

***Claim Rejections - 35 USC § 102***

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**11. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Ichikawa (US Patent 5,901,159).**

**Regarding claim 1**, Ichikawa teaches a data scrambler having a random data generator for generating random data in a cycle of 32 KB in order to scramble data (**col. 15, lines 1-30, data is scrambled using scramble data generated using an initial value, col.25, lines 35-50, cycle is modifiable**) having structure of 2 KB for a sector or a data frame and 64 KB for an ECC block (**col. 14, lines 50-67, ECC block and sector**).

***Claim Rejections - 35 USC § 103***

12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**13. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa, and further in view of Unno (US Patent 6,577,647).**

**Regarding claim 2**, Ichikawa does not expressly disclose a random data generator as claimed.

However, Unno teaches wherein the random data generator comprises: a 15-bit serial register  $r_0$  through  $r_{14}$  for generating the random data by shifting left synchronized with a clock input for scrambling; and an exclusive OR gate for outputting an exclusive OR value exclusive-ORing output from a higher-most register  $r_{14}$  and output from a lower register  $r_{10}$  to a lower-most register  $r_0$  (**col. 6, lines 1-30, generator comprises register and XOR gate**), wherein the scrambler includes an exclusive OR logic circuit which supplies a result of exclusive-ORing 1-byte input data  $D_0$  through  $D_7$  and each of the 8 outputs of lower registers  $r_0$  through  $r_7$  after left-shifting the 15-bit register  $r_0$  through  $r_{14}$  8 times (**col. 6, lines 1-30, XOR gate**).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a random data generator as disclose by Unno with the system of Ichikawa. One of ordinary skill in the art would have been motivated to perform such a modification to improve the performance of the random generator and increase the speed in generating random data (Unno, col. 2, lines 15-43).

### **Conclusion**

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David García Cervetti whose telephone number is (571)272-5861. The examiner can normally be reached on Monday-Tuesday and Thursday-Friday.

Art Unit: 2136

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami can be reached on (571)272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David García Cervetti/

Primary Examiner, Art Unit 2136